

In the Claims

The claims are amended as follows:

1. (Currently amended) A brake controller system comprising:

brakes located on a towed vehicle;

a brake activator for applying force to said brakes;

a brake control unit in communication with said brake activator, said brake control unit having a CPU, said brake control unit adapted to receive electrical energy from a battery;

~~voltage regulation circuitry in electrical communication with said brake control unit;~~

said CPU in electrical communication with a bus that is in communication with at least said brake activator such that said CPU provides a variable brake activation signal to said brake activator;

a pressure sensor for providing pressure information to said CPU, said pressure sensor measuring a pressure within a master brake cylinder of a towing vehicle; and

a voltage booster adapted to receive electrical energy from said battery and provide boosted voltage to said brake activator.

2. (Original) The brake controller system according to claim 1 wherein said brakes are electric brakes.

3. (Cancelled)

1 4. (Original) The brake controller system according to claim 1 wherein:

2 said brake activator is comprised of magnets; and

3 a current sensor for maintaining constant amperage to the towed vehicle brakes.

1 5. (Original) The brake controller system according to claim 4 wherein:

2 said CPU adjusts a signal for brake activation, based at least partially on data

3 from said current sensor.

6. (Cancelled)

1 7. (Currently amended) The brake controller system according to claim 1 wherein:

2 ~~wherein~~ said brake control unit is located within at the towing vehicle.

1 8. (Original) The brake controller system according to claim 1 wherein:

2 said bus communicates said CPU with brake lights on said towing vehicle.

9. (Cancelled)

1 10. (Original) The brake controller system according to claim 1 wherein:

2 said bus is a brake wire that receives multiplexed signals.

1 11. (Previously amended) The brake controller system according to claim 1 further
2 comprising:

3 an alpha numeric display on a front face of said brake controller unit and in
4 communication with said CPU for use as a visual indicator to an operator.

1 12. (Original) The brake controller system according to claim 1 further comprising:

2 a control panel on said brake controller unit comprising an adjust selection display
3 down button, and adjust selection display up button, an enter selection displayed button and a
4 scroll menu button.

1 13. (Previously amended) The brake controller system according to claim 1 further
2 comprising:

3 a sliding brake switch on brake controller unit for manually and variably
4 operating said brakes.

1 14. (Previously amended) A method for operating a brake controller system comprising:

2 receiving, by a CPU, a pressure signal indicating an amount of pressure in a
3 master brake cylinder of a towing vehicle;

4 signaling a voltage booster, by said CPU, to supply additional voltage above a
5 towing vehicle standard voltage; and

6 actuating the towed vehicle brakes.

1 15. (Previously amended) A method for operating a brake controller system for a towed
2 vehicle comprising:

3 sensing brake fluid pressure within a towing vehicle's master brake cylinder;

4 sensing current in an electric brake system on said towed vehicle;

5 calculating with a brake controller unit the appropriate amount of brake force to
6 be applied by a brake activator;

7 determining, by said CPU, whether a voltage booster is required to supply
8 additional voltage to said towed vehicle's electric brake system;

9 actuating said towed vehicle's electric brakes without actuating said towing
10 vehicle brakes by use of a manual thumb brake switch;

11 generating a signal from said brake controller unit that is based upon and
12 directly proportional to a linear position of the manual thumb brake switch; and

13 activating said brake activator with said signal; and

14 applying an appropriate amount of brake force with an appropriate amount of
15 voltage as directed by said brake controller unit.

1 16. (Previously amended) The method for operating a brake controller system according
2 to claim 15 further comprising:

3 signaling brake lights and a brake activator with said brake controller unit over a
4 brake line by multiplexing signals over said brake line.

17. (Cancelled)

1 18. (Original) The method for operating a brake controller system according to claim 15
2 further comprising the steps of:
3 storing data within a CPU of said brake controller system;
4 displaying at least a portion of said data with an alphanumeric display as a visual
5 indicator to the vehicle operator during operation of the brake controller;
6 wherein said data is selected from a group comprising: Brake Gain; Time; Date;
7 Last Maximum Brake; Last Maximum Stroke; Last Test: Maximum Brake; Last Test: Maximum
8 Stroke; Truck Control: Serial Number; Truck Control: Date Manufactured; Truck Control: Born
9 on Date; Trailer Control: Serial Number; Trailer Control: Date Manufactured; Trailer Control:
10 Born on Date; Run Diagnostic: Test Brakes.

1 19. (currently amended) A trailer brake system comprising:
2 a master brake fluid pressure sensor for ~~measure~~measuring a brake fluid pressure
3 of a brake system in a towing vehicle and for providing a brake fluid pressure signal;
4 a brake controller for controlling a brake activator, said brake activator being for
5 activating a trailer brake, said brake controller comprising a CPU for receiving said brake fluid
6 pressure signal and for generating a signal for said brake activator so that said trailer brake is
7 activated with a force related to said brake fluid pressure signal.

1 20. (Previously added) The trailer brake system of claim 19, further comprising:
2 a finger control for actuating said trailer brake system without actuating said
3 brake system of said towing vehicle, said finger control being electrically connected to said CPU,

4 said finger control generating a braking signal based on a movement or position of said finger
5 control.

1 21. (currently amended) The brake controller system of claim 19, further comprising:

2 aan alpha numeric display connected to said CPU for displaying trailer brake
3 related information to user during operation of said trailer brake system, said trailer brake related
4 information being at least one of Brake Gain; Time; Date; Last Maximum Brake; Last
5 Maximum Stroke; Last Test: Maximum Brake; Last Test: Maximum Stroke; Truck Control:
6 Serial Number; Truck Control: Date Manufactured; Truck Control: Born on Date; Trailer
7 Control: Serial Number; Trailer Control: Date Manufactured; Trailer Control: Born on Date; and
8 Run Diagnostic: Test Brakes.

1 --22. (New) A trailer brake system comprising:

2 a master brake fluid pressure sensor for measuring a brake fluid pressure of a
3 brake system in a towing vehicle and for providing a brake fluid pressure signal;

4 a brake controller for controlling a brake activator, said brake activator being for
5 activating a trailer brake, said brake controller comprising a logic unit for receiving said brake
6 fluid pressure signal and for generating a signal for said brake activator so that said trailer brake
7 is activated with a force related to said brake fluid pressure signal; and

8 a voltage booster capable of receiving a signal from said logic unit and supplying
9 an additional voltage above a towing vehicle standard voltage to said brake actuator.--